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EXAMINER	
SWITZER, JULIET CAROLINE	
ART UNIT	**PAPER NUMBER**
1634	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/812,827	LIEW, CHOONG-CHIN	
	Examiner	Art Unit	
	Juliet C. Switzer	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-12,19,20,22-25,27-34 and 36-51* is/are pending in the application.

4a) Of the above claim(s) *31-34 and 36-42* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-12,19,20,22-25,30 and 43-51* is/are rejected.

7)☒ Claim(s) *5,7,8,20,23 and 27-29* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I in the reply filed on 4/2/07 is acknowledged.

2. Claims 31-34 and 35-42 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4/2/07.

Priority

3. The claims in the instantly filed application are not granted the benefit of priority to the parent applications 10/268730 or 09/477148 because the claims all recite determining a statistically significant difference between quantified gene expression of a gene or genes in a group of subjects not having Alzheimer's disease or a test individual versus control subjects, wherein the difference identifies markers for disease, or is indicative of disease itself. These parent applications do not set forth support for such methods for finding markers for Alzheimer's disease or for detecting a difference in gene expression that is indicative of Alzheimer's disease. If applicant is able to establish priority for the instantly claimed invention to these applications, any art rejections in view of intervening references with be withdrawn, although this will require a new consideration under 112 1st paragraph. For this office action the considerations under 112 1st paragraph were made in view of a filing date of 3/30/04, 3/12/04 or 6/20/03 and there have been considerable developments in the technology surrounding the instant invention in the intervening years.

Claim Objections

4. Claims 27, 28, and 29 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim must depend from multiple claims in the alternative. See MPEP § 608.01(n), especially example (B)(3). Accordingly, the claims 27, 28, and 29 not been further treated on the merits.

5. Claims 5, 7, 8, 20 and 23 objected to because of the following informalities:

In claims 5, 7, and 8, the recitation "said one or more markers" is not consistent with the recitations in the independent claims from which they depend. Claims 1 and 3 recite "a marker" but do not recite "one or more markers." Claims 2 and 4 recite "two or more markers" but not "one or more markers." Thus, there is no "said one or more markers" in any of the singular independent claims from which claims 5, 7, and 8 depend.

Claims 20 and 23 refer to "said steps of determining said levels of RNA" and "the step of determining" but claims 1, 2, 3, and 4 and claims 9, 10, 11, and 12 recite "quantifying a level," not "determining a level." Thus, the claims are inconsistent and should be corrected.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 22 and 44-51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22 recites the limitation "said primers" in line 22. There is insufficient antecedent basis for this limitation in the claim when the claim is considered as it depends from 1, 2, 9 and 10 since these claims do not recite or require primers in particular.

Claims 44-51 are indefinite over the recitation "RNA of unfractionated cells of lysed blood samples" because it is not clear how lysed blood samples can still retain cells since lysis destroys the cells. These claims would be clearer if they recited RNA from lysed cells that were not previously fractionated into cell types, or total cellular RNA.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-5, 7, 9-12, 19-20, 22-25, 30 and 43-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma et al. (WO 98/49342, as cited in IDS) in view of Ralph et al. (WO/9824935 or US 6190857, both cited in IDS).

The two Ralph et al. references have substantially identical disclosures, but are applicable to the instantly claimed invention as of different dates. The rejections set forth herein are applied in view of either of the references, and so both are set forth. In the rejection, column and line

numbers from the issued patent are used to refer to the disclosure, but each portion referenced in the patent is also present in the WO document.

Sharma et al. teach that from the very early stages of diseases the whole organism responds to the changed condition (p. 10, 4th full ¶). In light of this, Sharma et al. teach a method for identifying a marker useful for diagnosing a disease comprising the steps of detecting the presence of RNA in an unfractionated sample of whole blood from each of one or more subjects having said disease and quantifying a level of said RNA in said sample. Namely, Sharma et al. teach the preparation of gene transcript patterns beginning with extraction of mRNA from tissues, cells or body parts of an individual or organism which has a disease or condition (p. 7, final ¶, p. 12, 1st ¶), and particularly teach the isolation of mRNA from whole blood sample that have not been fractionated into cell types, that is lysed samples of whole blood, or also called total blood RNA (p. 35, section 5.1.1). Sharma et al. teach that this method is useful for finding markers for Alzheimer's disease (p. 6; p. 24, Example 1). Sharma et al. teach quantifying the level of expression and determining a difference between the quantified level in the sample from the diseased subject and a similarly quantified level of genes of control RNA from an unfractionated sample of whole blood from each of one or more first control subjects (p. 5, step (d); p. 15, first full ¶; p. 18, step (f); p. 11, final ¶). Sharma et al. teach that these methods are carried out by producing amplification products from RNA extracted from an unfractionated sample of whole blood (p. 18 and p. 35, Example 5). Sharma et al. teach that the subjects are human (p. 7, 2nd full ¶).

Sharma et al. teach that once the markers are identified, the mRNA or cDNA species are isolated and used to prepare diagnostic patterns by immobilization on a solid support (pages 15-

16). The diagnostic patterns are arrays comprising a plurality of isolated nucleic acid molecules, as recited, for example in claim 23. Sharma et al. teach that preferably between 2 and 1000 probes are put onto the support (p. 16) and provided in a kit for diagnosing a disease (p. 19); each of these molecules identified by Sharma et al. are a molecule that corresponds to the human genome, as set forth in claim 30. Sharma et al. teach a method for identifying disease based on the differential expression of genes (p. 22 and following, for example) specifically teaching diagnosis of Alzheimer's disease (Example 1). Sharma et al. determining a statistically significant difference when they teach that the degree of correlation which is required to confirm the presence, absence, or extent of disease takes into account the range of values which are obtained for normal and diseased samples, and that this can be established by obtaining standard deviations for several representative samples binding to the probes (p. 22-23).

Sharma et al. teach isolating RNA from blood samples (p. 35, section 5.1.1).

Sharma et al. teach detecting RNA by detecting cDNA derived from RNA (p. 18, steps (c) and (d), for example).

Sharma et al. teach quantifying the level of control RNA in said sample (p. 5, step (d); p. 15, first full ¶; p. 18, step (f); p. 11, final ¶). Sharma et al. teach isolating the control RNA into bands on an electrophoresis gel for quantification (p. 13).

Sharma et al. teach the detection of many genes, including second, third, etc. (p. 16) genes and teach the sampling of more than one diseased and/or control subject to determine quantified levels of expressed markers (p. 21, first full ¶).

Sharma et al. do not teach using an oligonucleotide of predetermined sequence, or in particular, using primers specific only for RNA and/or cDNA complementary to said RNA.

Further, while Sharma et al. teach identifying a statistically significant difference between a test subject and a control (see previous discussion), but they do not particularly teach identifying a statistically significant difference in expression during their search for markers, that is when developing the transcript pattern.

Ralph et al. teach that responses secondary to disease states may be reflected in changing patterns of leukocyte mRNA levels that correlate with the presence of the disease state (Col. 5, lines 27-33). Thus, the underlying principle guiding the analysis undertaken by Ralph et al. is very similar to that of Sharma et al., namely that disease states effect the patterns of mRNA present and detectable in the blood. Further, Ralph et al. teach that "frequently mRNAs identified by RNA fingerprinting or differential display as being differentially regulated turn out not to be so when examined by independent means," and thus it is "critical that the differential expression of all mRNAs identified by RNA fingerprinting be confirmed as such by an independent methodology (Col. 99, line 66- Col. 11, line 9, and following)." Ralph et al. exemplify confirmation of differentially displayed mRNAs as differentially expressed using relative quantitative RT-PCR with primers that are between 15 and 25 nucleotides in length. Ralph et al. teach the use of RT-PCR to identify two or more markers useful for diagnosing a disease, exemplifying this method for the detection of two transcripts referred to by Ralph et al. as UC331 and UC332, these sequences are RNA encoded by each of two genes (Example 5.6.2 and following, Col. 98). The genes are expressed in blood and non-blood tissues of human subjects not having the disease (Col. 101, lines 41-47 and Col. 102, line 5-10). Ralph et al. teach using an oligonucleotide of predetermined sequence which are primers specific to the particular transcripts to detect a presence of the RNA molecules (Col. 98, lines 17-19 and 26-27). Ralph et

al. detect a presence in samples from patients having disease and from healthy volunteers (Col. 98, lines 5-6). Ralph detect the presence of these RNA in DNA-free total RNA from peripheral blood (Col. 98, lines 5-6). DNA-free total RNA from peripheral blood is RNA of a blood samples which have not been fractionated into cell types, and likewise, it is obtained via the lysis of unfractionated cells. Ralph et al. quantify the level of RNA encoded by the genes from both patients having disease and healthy patients, using relative quantitative RT-PCR (Col. 98, line 8). Ralph et al. determine a difference between the levels of RNA in diseased and control samples, said difference identifying the gene as a marker of said disease (Col. 98, lines 32-37). Further, Ralph et al. teach that their methods can be used to screen test subjects for the presence of the identified disease markers (Col. 61 and throughout). Ralph et al. also teach determining a statistically significant difference in PSA present in samples between sample types (Col. 65, lines 42-55; Col. 69, lines 46-63), and the use of statistical methods to normalize RT-PCR reactions (Col. 75, lines 35-45; Col. 77, lines 40-43, Col. 79, lines 20-30).

Thus, at the time the invention was made, it would have been prima facie obvious to one of ordinary skill in the art to combine the methods for identifying markers for Alzheimer's disease taught by Sharma et al. with the methods taught by Ralph et al. so as to have included a verification step of the identified markers using RT-PCR with gene specific primers. One would have been motivated to undertake such a method by the express teachings of Ralph et al. that independent confirmation of transcripts identified by fingerprinting or differential display is necessary to determine the utility of the markers as disease markers. Furthermore, one would have been motivated to determine differences that are statistically different from one another in

order to provide markers and results that are robust and likely to represent repeatable differences among samples and to give reliable markers for use in the detection of disease.

Regarding the requirement that the subject genes are genes that are expressed in blood and non-blood tissue of a subject not having said disease, this is considered to be an inherent property of at least some, if not all, of the genes that would be detected by the methods taught by Sharma et al. in view of Ralph et al. First, all genes, to some extent are expressed in all cells, following the theory of illegitimate transcription. The examiner is not aware of any gene whose expression occurs ONLY in the blood to the exclusion of every other tissue type. Further, regarding claims 5 and 7 which require that the genes are "non immune response genes" or markers correspond to a gene expressed in "non-lymphoid tissue" these are also extremely broad recitations which would appear to be met by the teachings provided by Sharma et al. in view of Ralph et al. Sharma et al. in view of Ralph et al. teach a method which completes the same screening steps as required by the claim, and so the detected transcripts would be expected to include genes expressed in blood and non-blood tissue of a subject not having said disease, as well as genes expressed in non-lymphoid tissues and non-immune response genes (see MPEP 2112).

This rejection applies to claim 43 because while this claim recites a requirement for the length of the EST of claim 25, it does not in fact require that the isolated nucleic acid molecules are EST.

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma et al. in view of Ralph et al. as applied to claims 1-4 above, and further in view of Jiang et al. (American Journal of Medical Genetics Part B (Neuropsychiatric Genetics; 118B:99-102, April 2003).

The teachings of Sharma et al. in view of Ralph et al. are applied to claim 8 as they were applied previously in this office action. These do not teach a method wherein one marker whose expression is measured and detected as being differentially expressed identifies the sequence amyloid precursor protein (APP).

Jiang et al. teach that there was a significant increase in the expression of APP mRNA transcripts in the peripheral blood cells of patients with Alzheimer's disease as compared with healthy controls or individuals with vascular dementia.

Thus, at the time the invention was made, it would have been prima facie obvious to one of ordinary skill in the art to have modified the methods taught by Sharma et al. in view of Ralph et al. so as to have additionally included a step of including analysis of APP mRNA in their methods for detecting markers for Alzheimer's disease. One would have been so motivated by the teachings of Jiang et al. that this molecule is differentially expressed in the blood cells of patients with Alzheimer's disease, and so it would have been obvious to further screen the total RNA samples screened by Sharma et al. in view of Ralph et al. for this transcript in order to provide an additional, possible informative marker.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

12. Claims 9-12, 19, 20, 22, 23, 24, 25, 30, 43, and 48-51 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are broadly drawn to detecting a difference in expression of a gene or in two or more genes in a human test subject as compared with control subjects, wherein said difference is indicative of Alzheimer's disease. The practice of the claimed methods requires written description as to which "one or more genes" can be detected differently expressed in a test subject versus control subjects such that the difference is indicative of disease.

The specification does not provide any written description of a single gene that is differentially expressed in a human test subject as compared with control subjects, wherein said difference is indicative of Alzheimer's disease. The genus of possible genes for use in this method is extremely large, including any possible gene expressed in human blood. There is no apparent or disclosed common structural feature which joins all possible genes that meet this functional requirement, yet the claims require that the gene or genes be detected and quantified using oligonucleotides of predetermined sequence or primers specific only for RNA and/or cDNA encoding the gene.

Vas-Cath Inc. V. Mahurkar, 19 USPQ2b 1111, clearly states that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the 'written description' inquiry,

whatever is now claimed". Applicant is reminded that *Vas-Cath* makes clear that the written description provision of 35 USC 112 is severable from its enablement provision. In *The Regents of the University of California v. Eli Lilly* (43 USPQ2b 1398-1412), the court held that a generic statement which defines a genus of nucleic acids by only their functional activity does not provide an adequate written description of the genus. The court indicated that while Applicants are not required to disclose every species encompassed by a genus, the description of a genus is achieved by the recitation of a representative number of DNA molecules, usually defined by a nucleotide sequence, falling within the scope of the claimed genus. At section B(1), the court states that "An adequate written description of a DNA...' required a precise definition, such as by structure, formula, chemical name, or physical properties', not a mere wish or plan for obtaining the claimed chemical invention".

No common structural attributes identify the members of the genus of genes whose differential expression within the claimed methods is "indicative of Alzheimer's disease." The current methods set forth in the current claims encompass the detection of a large genus of one or more genes that may be differentially expressed in the blood of subject and control patients. This large genus is represented in the specification by not a single member. The general knowledge and level of skill in the art do not supplement the omitted description because specific, not general guidance is what is needed. Since the disclosure fails to describe the common attributes or characteristics that identify members of the genus, and because the genus is highly variant, the disclosure in the specification alone is insufficient to describe the genus. The general knowledge in the art concerning differential expression does not provide any indication of any structural features that might be common to all genes that might function in the

claimed methods. Common attributes are not described. The specification provides no correlation between structure of differentially expressed genes and the function of such genes within the claimed methods. One of skill in the art would conclude that applicant was not in possession of the claimed genus because a description of only one member of this genus is not representative of the variants of the genus and is insufficient to support the claim.

Accordingly, Applicants have not adequately disclosed the relevant identifying characteristics of a representative number of species within the claimed genus, and the claims are rejected for lack of written description.

Double Patenting

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 1-4, 5, 7, 8, 9-12, 19-20, 22, 23-25, 30 and 43-51 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 26, 27, 31, 32, 36, 37, 40, 43, 46, 47, 52, 53, 56, 57, 59, 61, and 63-66 of copending Application No.

10/268730. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application anticipate or make obvious the instantly claimed invention, see for example claim 42 which recites a method for identifying a difference in expression wherein said disease is Alzheimer's disease.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

15. Claims 1-4, 5, 7, 8, 9-12, 19-20, 22, 23-25, 30 and 43-51 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 17, 19, 20-21, 23-24, 28-29, 31, 33-34, 38-39, 41, 43, 46, 49, 54-56 of copending Application No. 10/601518, in view of Sharma et al. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instantly claimed invention is obvious in view of the invention in the copending application and Sharma et al. The copending application provides a method for detecting markers for disease which is generic to the instantly claimed invention, that is the copending application does not teach finding markers for Alzheimer's disease. The teachings of Sharma et al. are set forth in this office action. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have applied the methods set forth in the copending application to the problem of finding markers for Alzheimer's disease in particular. One would have been so motivated in order to provide markers for this disease, and by the clear teachings of Sharma et al. that markers which are differentially expressed in Alzheimer's disease can be identified in whole blood samples.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

16. No claim is allowed.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juliet C Switzer whose telephone number is (571) 272-0753. The examiner can normally be reached on Monday, Tuesday, or Thursday, from 9:00 AM until 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached by calling (571) 272-0735.

The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-0507.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system

provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Juliet C. Switzer
Primary Examiner
Art Unit 1634

July 3, 2007